GRUMMAN

plane news

SOUND STAGE FOR THE WORLD'S NEWEST TACTICAL ECM AIRCRAFT. EF-111.

- pg. 3

When all else failed, hams came to the rescue

Half-empty coffee cups lined the desks and the window sills; for a while, the little office on the roof of Plant 5 that houses the Grumman Amateur Radio Club had a decidedly lived-in look. A cot with a red blanket stood in the middle of the room; a plastic bag on a desk held supplies...two packages of chocolate cupcakes, an envelope of chicken soup mix, oatmeal cookies, Hershey bars. But the crisis is over now. All the Grummanites are home from Iran, and the members of the radio club are clearly relieved.

From early December, the radio club was in daily contact with the contingent in Iran. During the last few, tense weeks, they provided 24-hour coverage on a volunteer basis as an afterwork hobby turned into a much-needed link with Grummanites 5,000 miles away. For almost a week in February when all other telecommunications with the country were cut off, the club provided the only contact with the 12 Grummanites who remained in Iran.

"We knew that there was a guy over there, Vern Hardy, who was a ham," says Ray Schubnel, the club president. "So in the beginning of December, when the trouble there started getting serious, we set up a schedule to talk to Vern at the same time every day on a pre-arranged frequency. By the end of January we had stepped up that coverage and had someone at the station all the time."

Every country has different radio call letters. The United States uses A, W, N, and K; for Iran, the call letters are EP.

"When we'd get on the air and call 'EP2VH,' other hams would know that we were calling Iran and they'd drop off immediately to clear the air for us. Things would get really quiet so that we could get through," says Schubnel.

There are about 70 members in the club; 27 of them were operators during the Iranian crisis. Three Grumman retirees, Jack Erickson in Florida, Dave Goldblum, and Virginia Grebey, provided support from their home stations. Some club members, such as Schubnel, Skip Courtney, Jim Kearney, Zac Zilavy, Dick Townes, Scotty Weyant, Jack Cottrell, and Irwin Solomon, pulled all-nighters or showed up at four in the morning to provide coverage.

"It could be pretty unnerving at times," Skip

(*Continued on page 11*)

Name Dunn VP

Howard Dunn

The Board of Directors of Grumman Corporation recently elected Howard Dunn Jr., Vice President. Dunn continues to serve as director of Corporate Audit and to report directly to John Carr, Vice Chairman of the Board. He will also report directly to the Audit Committee of the Board of Directors on all matters relating to material deviations from full compliance with corporate policy.

Dunn joined Grumman Aircraft Engineering Corporation in 1960 as an internal auditor. He was appointed assistant director of the Corporate Audit and Procedures department in 1964, and director of that department in 1968. Five years later, Dunn was appointed Grumman Corporation's director of Corporate Audit.

A graduate of St. John's University, Dunn is a certified internal auditor and a member of the Institute of Internal Auditors. The new vice president is located in Corporate Headquarters, and may be reached on Ext. 3810.

Radio city *A few of the 'hams' who operated the radio station during the Iranian crisis are: (Front row, L to R) Dick Townes, Skip Courtney; (back row) Zac Zilavy, Ray Schubnel,Jim Kearney, and Jack Cottrell. (Photo by Rich Breunig)*

Ham to ham. *After more than two months of long distance conversations, Vern Hardy meets radio club president Ray Schubnel. (Photo by Marie Trimborn)*

'Pinnacle' visits

Vern Hardy, a civilian employee of the Navy assigned to the F-14 program in Iran, is from Jacksonville, Florida. But when he came back from Iran, there were a few people in Bethpage he wanted to meet face to face. On Tuesday, March 6, Vern was the guest of honor at a special meeting of the Grumman Amateur Radio Club.

"After talking to these guys over the radio every day for more than two months, I just had to come up here to see them," he says.

Vern, who was a program manager for engineering and technical services the Navy contracted for, has been an amateur radio operator for over 30 years. He brought his radio set with him to Iran three years ago "...just for the fun of it. It's my hobby," he says. "I would never have imagined just how important it would become to me."

Although the antenna on top of his house in Isfahan aroused the suspicions of the Iranian forces on several occasions, Vern was able to head them off by saying the antenna was for a television set and a stereo.

However, just before their departure, Vern's log book and radio set were confiscated by the Iranians.

"I felt pretty bad about that," says Vern, "but all things considered, I guess I got my money's worth out of it!"

Next edition: March 30th

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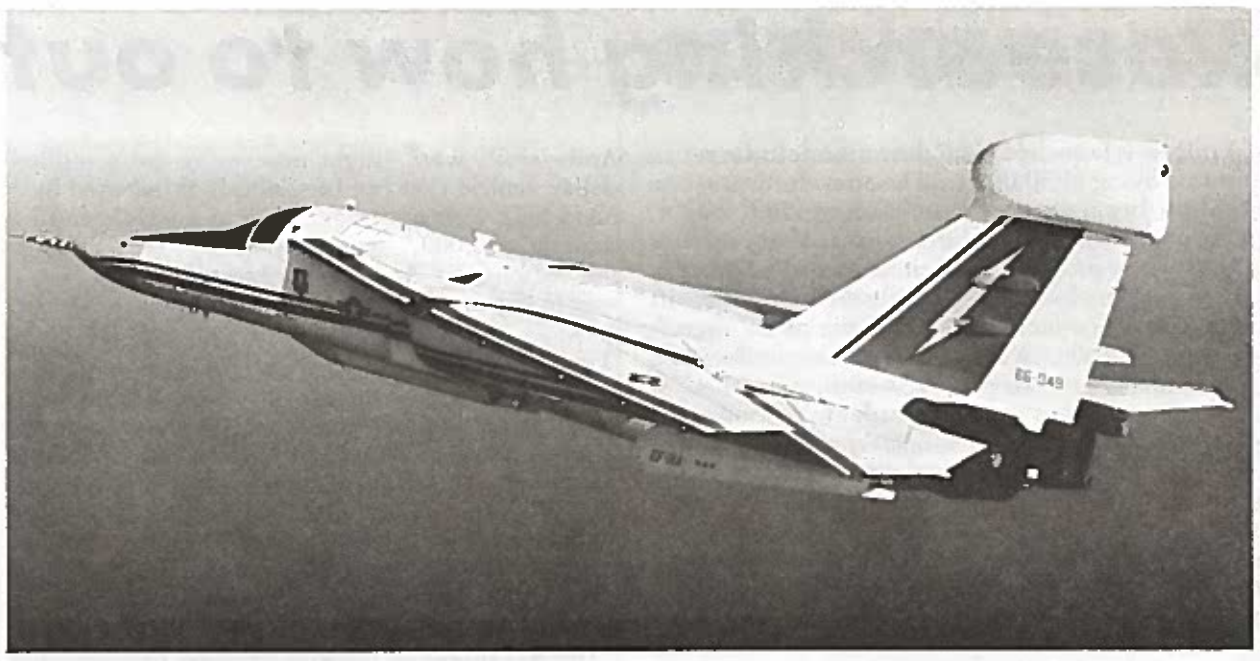
Green light for EF-111 production



A major new program for Grumman took off last week as the Department of Defense authorized the go-ahead for the first six EF-111A aircraft. The agreement was viewed by Grumman Aerospace Chairman and President George Skurla as "the cornerstone of our ever-increasing thrust to be a major Air Force supplier."

The initial contract, which calls for the conversion of six F-111A aircraft into the EF-111A configuration, is valued at approximately $130-million. The Air Force plans to procure a total of 42 planes, bringing the amount to about $900-million. The program is the largest new business for Grumman since the early 1970's.

Critically needed

The EF-111A is an electronic warfare aircraft designed to counter the latest in enemy electronic defenses. It incorporates the ALQ-99, the nation's most advanced tactical jamming system.

Commenting on the authorization, Skurla said, "We are very pleased that the outstanding system that we have designed and developed for the EF-111A test prototypes has resulted in the Air Force's decision to proceed with this very critically needed tactical jamming system."

The long awaited green light was the fulfillment of almost four years of hard work, according to Tom Guarino, Vice President-Aerospace Programs.

"The program had to survive budget drills from the Air Force, the Office of the Secretary of Defense, and the Office of Management and Budget; pass Congressional scrutiny, and meet with the approval of the Defense Systems Acquisition Council," says Guarino, "in addition to the completion of USAF test programs at Eglin Air Force Base in Florida and Mountain Home Air Force Base in Idaho."

Guarino credits the dedicated Grumman team with securing the contract. "They are, without a doubt, the hardest working bunch of people I've ever met," says Guarino. "Some of them worked the entire holiday break. Our Calverton group, supporting the flight test program, put forth a superb effort and really impressed the Air Force.

"It's been invigorating to work with a new customer," Guarino adds. "Col. Bert Harbour, the Systems Program Office Director for EF-111A, provided the leadership needed to get the extremely difficult program finished on schedule and on cost.

"Basically, the most important ingredient in a successful relationship with any customer is this: do what you say you're going to do. I think we're proving ourselves to the Air Force. Hopefully, this will be the springboard for additional new work."

Need for TJS

The campaign to get the EF-111A on the Air Force's shopping list began in 1975, when the Air Force selected Grumman to perform the test and qualification work on the conversion of two F-111A fighter bombers into the EF-111A configuration prototypes.

Less than two years later, the prototypes were completed and the testing began. In May of 1977, Air Force and Grumman officials gathered at Calverton for roll-out ceremonies as the first full-systems EF-111A aircraft was unveiled.

At that time, Lt. Gen Robert Mathis (then Vice Commander, Air Force Systems Command, and now Deputy Commander, Tactical Air Command) stressed the need for the tactical jamming system in the Air Force inventory.

"The Soviets have taken the impact of electronic warfare and made it the keystone of their defensive forces. The east European environment today reveals the most dense environment of early-warning and ground-control intercept radar networks known to exist in the world.

"To counter this growing threat in Europe," the general continued, "late in 1971 we laid plans for an airborne tactical jamming system to update our electronic warfare capability. The question five-and-a-half years ago for the Air Force was how to get what was required. Here today we have a beginning."

Looking back on that, Program Director Vern Kramer says, "The need for the EF-111A has always been clearly and simply stated by the Air Force...but satisfying that requirement in today's political environment became a very complex operation. However, it is a real requirement; therefore, we were ultimately successful."

The EF-111A will be an extremely versatile addition to the Air Force inventory, as its combination of speed and range give the aircraft a variety of mission capabilities. As a standoff jammer, it can loiter miles from enemy territory for extended periods. As an escort, the supersonic swing-wing EF-111A can accompany strike forces all the way to targets deep in enemy territory while providing blanket radar jamming coverage. In addition, it can support bomber strikes along battlefield front lines.

Three tons of sophisticated electronics equipment, including transmitters, receivers, antennas, computers, and display equipment, have been incorporated into the two-place supersonic aircraft.

The EF-111A production program will be starting up almost immediately, according to Kramer. Work will be divided among Grumman facilities in Bethpage, Calverton, Great River, and Milledgeville, Georgia. About 500-600 people will be working on the program by the end of this year; that number will speak at 1,000-1,200 people in 1981.

the cover

Our front page this issue features one of the latest additions to Grumman Aerospace's advertising campaign. Included in the ad is the following copy:

You're looking at the USAF EF-111 tactical jamming system getting a total EW system check-out in Grumman's anechoic chamber. Suspended in the chamber, the aircraft is completely isolated from the "outside world" so that it can be fine-tuned for its operational environment.

You're looking at the only USAF-destined tactical aircraft dedicated specifically to electronic countermeasures.

You're also seeing the best answer to the other side's development of the densest thicket of electronic defenses found anywhere in the world.

EF-111 can overwhelm and blind such defenses. And even if multiple, hostile radars switch to a variety of frequencies, the EF-111's jamming capabilities can handle them immediately.

EF-111 can accompany any strike aircraft. Take any mission, from close air support to deep penetration.

Finally, the EF-111 is adaptable. Its electronic systems can be converted quickly to counter new threats as they develop.

EF-111 is just one illustration of our capability to design, manage and integrate total systems.

It is also another example of how we work to provide real answers to real needs.

GRUMMAN plane news

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Researching how to outfox missiles

A missile is launched from the ground, its target an aircraft flying at 50,000 ft. The aircraft turns to the right to begin its attack on a designated target, unaware of the approaching missile. Forty seconds after the missile is launched, it hits the aircraft.

How can the loss of a valuable crew and aircraft be avoided? To increase the chances of an aircraft evading a missile, two men in Grumman's Research Department have developed a unique method of analyzing weapons systems in order to minimize the chances of missile kills. Gil Carpenter and Mike Falco are applying this method to determine the optimal way of maneuvering an aircraft to avoid getting hit by missiles.

The two researchers began working on their weapons analysis about five years ago. One early project was a study of aerial combat, in terms of the air superiority of one plane design over another. They simulated both combatants on the computer and put the planes through the kinds of maneuvers a human pilot would do. Using a large number of computer trials, they were able to show how and under what conditions one kind of airplane was superior to another. "By using the computer we can help analyze design trade-offs in advance, before building a prototype," says Falco.

Vulnerability to missiles

Another problem studied was how an airplane over enemy territory could avoid being shot down by surface-to-air missiles — a major cause of losses over North Vietnam. The Air Force, says Carpenter, "conjectured that flying high and flying fast would be the best way. Using our analysis, we were able to verify that this is indeed one way to go to reduce vulnerability to missiles."

The Army saw the results on the survivability of airplanes and decided that there was a direct application to analyzing the problem of tanks versus missiles. Three years ago, the U.S. Army Tank Automotive Research and Development Command (TARADCOM) gave Grumman a contract to make such an analysis.

The research results may affect the future of the tank, which proved so effective in World War II but extremely vulnerable to missile attack in the last Arab-Israeli war. "Right now we've got a million-dollar vehicle that can be seriously threatened by a hand-held weapon system, such as a missile costing perhaps $10,000," says Carpenter. "That's one of the reasons the Army has asked us to help find a way to improve the tank's survivability."

Threat warning

"Tanks are basically unsophisticated, compared to aircraft systems," says Falco. "They have very little electronics on them, particularly in providing threat warning for the vehicles. The Arab-Israeli war showed that something had to be done to upgrade the capabilities of tanks. You can't depend solely on visual perception and quick reflexes to avoid catastrophe. You need more."

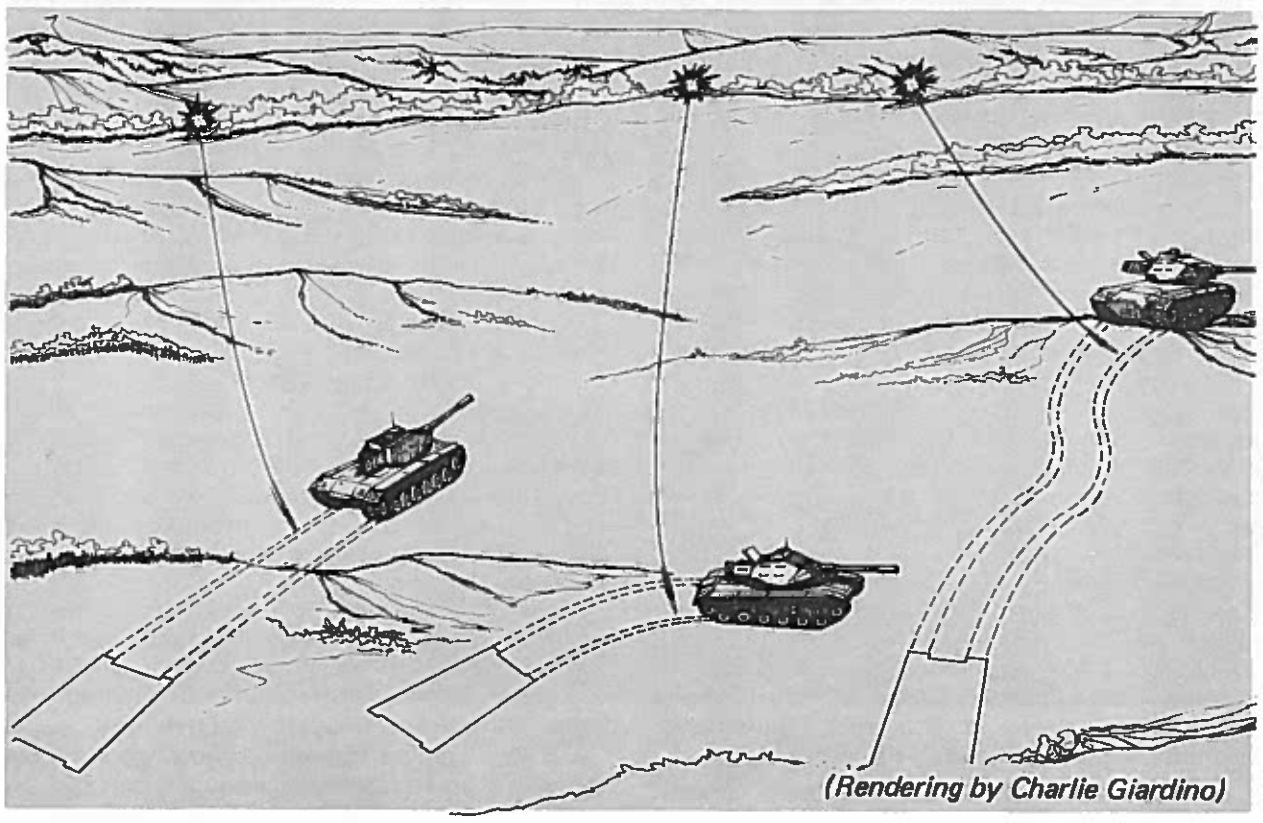
The advantage of the analysis used by Carpenter and Falco is that it can all be done on a computer. Real life testing of avoidance maneuvers would mean large numbers of tanks and large numbers of missiles with huge cost in lives, machinery and man-hours. Through trial and error, the best maneuvering technique could be found in time, but, with computer analysis, results are quicker and more accurate.

What Carpenter and Falco do is simulate a missile trajectory on the computer and then put a simulated tank through a series of maneuvers -- left or right turn, acceleration or deceleration, for example. Statistics are collected on the results, either a hit or a miss. After thousands of such computer trials, it is possible to predict the best maneuver to be made at various points during the missile's flight, in order to avoid a hit. "An optimal maneuvering strategy — one that is carefully timed and executed — can greatly increase the probability of a tank surviving a missile attack," says Falco.

Black box

The Carpenter-Falco analysis will take a long time to become operational and would need advanced technology in the form of a "black box," utilizing both a radar warning system and an on-board computer. The warning system would have to detect and track the missile and provide information on its range, bearing and velocity. The computer, with the best maneuvering strategy stored in its memory, would indicate what move should be made, and that move would be carried out either automatically or manually by the pilot or the tank commander.

A paper describing the combat analysis methodology involving both airplanes and tanks was presented to the annual conference of the Military Operations Research Society by Carpenter and Falco last year. It won the David Rist Memorial Award as the best of the 300 technical papers submitted.



(Rendering by Charlie Giardino)

obituaries

LEONARD HOFMAN of Maintenance, Plant 3, died February 23 at the age of 60. He had been with the company since 1967 and resided at 2924 Yale Place, Baldwin.

ROBERT SMITH of Small Parts, Plant 2, died February 12 at the age of 55. He had been with the company since 1950 and resided at 13 Mackey Avenue, Port Washington.

WILLIAM E. HOLMES of Inspection Aerospace Industry, Plant 2, died March 2 at the age of 59. He had been with the company since 1958 and resided at 160-19 129th Ave., Jamaica.

LOIS JEAN HUMPHRIES of Purchasing, Plant 77, died March 5 at the age of 42. She had been with Grumman since 1969 and resided at 2359 N.W. Sunset Blvd., Jensen Beach, Florida.

ARTHUR LEMP of Electrical Equipment Design, Plant 4, died March 3 at the age of 52. He had ben with the company since 1958 and residend at 31 Lincoln Blvd., Bethpage.

Personals

My husband and I wish to thank our many friends and co-workers for their sympathy and kind understanding during our recent loss. **Christine Banks**

My family and I wish to express our deepest appreciation to our friends and co-workers for their kindness and sympathy during our recent loss. **Lillian Blanck**

On behalf of my mother and myself, I wish to express my sincere appreciation for the kindness and sympathy expressed by my friends, co-workers and Employee Services during the recent loss of my father. **Gloria Brathwaite**

My family and I wish to thank all our friends, co-workers and Employee Services for their kindness and sympathy during the recent loss of my mother. **Vincent DeVito**

On behalf of my family and myself, I wish to thank all my friends, co-workers and Employee Services for their kindness and sympathy during the recent loss of my husband. **Betty Fick**

I wish to express my deep appreciation for the kindness and sympathy expressed by my friends and co-workers during the recent loss of my mother. **Martha Gail**

On behalf of my family and myself, I wish to extend my sincere appreciation to all my friends, co-workers and Employee Services for their kindness and sympathy during the recent loss of my father. **Roy Handwerk**

On behalf of my family and myself, I wish to thank my friends, co-workers and Employee Services for their kindness and sympathy during the recent loss of my father. **Jerry Marchak**

We wish to thank all our friends at Grumman and Employee Services for their kindness and sympathy during the recent loss of our son. **Alex and Mary McKeveny**

My family and I wish to express our sincere appreciation for the thoughts and sympathy expressed by our friends and associates during the recent loss of my father. **Joe Morales**

people

A father-and-son cruise on board the nuclear-powered naval aircraft carrier U.S.S. Dwight D. Eisenhower brought Grumman's George Nedwed a new insight into his work. He was able to see first hand where some of the machine parts he has monitored in his work in Supplier Surveillance ended up. "I recognized the launch bar on the nose gear of all the Grumman planes on board and I saw several large machine parts on the E-2C that I had dealt with," he says.

George was one of 154 guests — either fathers or sons of some of the carrier's crew — who were invited on board for a three-day workup cruise off the Virginia coast in January. George's son Geoffrey, 19, has been in the Navy for one year

George Nedwed

and is an airman first class attached to the carrier's A-6 squadron.

During the cruise, George occupied a bunk near his son, ate in the same mess, and spent his time observing Geoffrey at work, touring the ship or watching the hectic activity on the flight deck.

"It was unbelievable," he says. "They had two catapults going at the same time. They had trap landings going on and the pilots were also practicing touch-and-go. I was very impressed by the teamwork and coordination. You've got to give those kids a lot of credit for the way they get things done."

George had spent two years in the Navy himself, serving in the amphibious forces from 1944 to 1946. "The food is much better now," he thinks. "They've even got a salad bar and in the mornings you can get eggs any way you want them. It's a great change from the green looking powdered stuff we used to be served."

New appointments

Among those who recently received changes in assignments were: DEPARTMENTAL OPERATIONS — John Allsopp, principal engineer, RF/Controls Engineering, Equipment Technology, Pl. 35; Richard Fauvell, software development specialist, ATE Equipment Technology, Pl. 5; Martin Jungman, technical specialist, RF and Video Equipment, Equipment Technology, Pl. 5; Donald Kaley, project engineer, Product Development Operations Center, Pl. 5; Vincent Lattuca, project manager, Technical Operations, Pl. 6; Joseph LeStrange, technical specialist, A-6 Programs, Pl. 40; Robert Ludwig, section head, Illustrating, Publications, Pl. 15; Gerald McNiff, principal engineer, Target Acquisition Weapons Delivery System (TAWDS), Pl. 7; Frank Murphy, group leader, NEWTS Program, Pl. 4; Frank Pauly, engineering manager, F-14 Program, Pl. 25; Richard Spalding, project leader, Digital Engineering, Equipment Technology, EA-6B, Pl. 40; FIELD OPERATIONS — Harold Lyons, section head, Logistics Support, Pl. 35; Alfred Shaefer, logistics manager, NAS Miramar, Pl. 80; GREAT RIVER OPERATIONS — Robert Albert, program representative, Support Commodities, Pl. 43; Michael Maggiore, foreman, G.S.E. Box & Panel Fabrication, Pl. 43; Edward McKearney, group leader, Production Status and Control, Pl. 43; Donald Sheehan, assistant, Great River Operations, Pl. 43; MATERIAL MANAGEMENT — William Wypyski, material manager, F-14 Program, Pl. 25; PROGRAM MANAGEMENT — Charles Darling, manager, Harpoon Missile Integration Program, Pl. 40; Janet Eisenhower, manager, A-6 Retrofit Kits and TC-4C Modification Programs, Pl. 40; Richard Gregor, program manager, Production Operations, Pl. 40; Robert Scholly, program manager, Development, Pl. 40.

Good sport

Dr. Henry Viscardi Jr., founder and president of Human Resources Center in Albertson, N.Y., recently announced the selection of George Skurla, Chairman and President of Grumman Aerospace, as chairman of the Center's 13th Annual Celebrity Sports Night Dinner.

Celebrity Sports Night, which will be held on Wednesday, May 23, raises funds to support programs at Human Resources Center, one of the nation's leading institutions for the education and vocational rehabilitation of handicapped individuals. Over 30 prominent sports figures from the past and present attend.

In announcing Skurla's selection, Dr. Viscardi stated that "we are honored to have the leadership of one of Long Island's outstanding executives for our Sports Night Dinner. His guidance and leadership will help us to continue the special educational and employment preparation programs we offer to disabled children and adults."

Lost comrades

A group of Grumman veterans of the China-Burma-India theater of operations in World War II are conducting a survey to determine the number of ex-C.B.I.'ers at Grumman.

The group, called the "Grumman Basha" (Hindu for house), would like to know the names and former military outfits of the Grumman C.B.I.'ers. They would also like to extend an invitation to these vets to join the "Basha."

Members of the "Grumman Basha" automatically become members of the national "Basha," and receive the monthly C.B.I. magazine.

For further information, contact Stan Sklarow, Ext. 8539; mail station A19-03.

appointments

In Grumman Aerospace, many Grummanites recently received new assignments.

Dick Milligan has been named deputy director of Public Affairs, reporting to Brian Masterson, director. In addition, Motion Picture, Audio Visual, and Television Services have been transferred from Presentations Services and incorporated into the Public Affairs Department. Milligan can be reached on Ext. 7117, mail stop C14-05,

Harry White Jr. was recently appointed director of Presentations Services. He reports to Dick Higgins, director of Administrative Services and can be reached at Ext. 7340, mail stop C39-05.

In Advanced Systems Technology, Walter Ludwig has been named director of Subcontract Development. Reporting to Dr. Renso Caporali, director of Advanced Systems Technology, Ludwig, can be reached on Ext. 6360, mail stop C33-05.

In Great River Operations, Rudy Avitabile, Albert Schuckle, and Harry Fuhrmann have been given new assignments.

Avitabile has been appointed chief of Operations and is responsible for directing the functions of Manufacturing, Material, Engineering and Program Management Operations at Great River. He reports to General Manager Bruno Caputo, and can be reached on Ext. (113) 7723, mail stop A12-43.

Schuckle has been appointed deputy chief of Operations, reporting to Avitabile. This responsibility is in addition to his present position as director of Material Department, Great River Ops. Schuckle can be reached on Ext. (113) 7762, mail stop A20-43.

Fuhrmann has been named director of Manufacturing -GRO. He reports to Avitabile and can be reached on Ext. (113) 7724, mail stop A12-43.

Also in Great River Operations, John Koehler has a new assignment as director of Business Planning. Reporting to Caputo, GRO general manager, Koehler is located in Plant 43, on Ext. (113) 7982, mail stop A24-43.

Helping hand

How do you talk to a relative who has cancer? How do you express your feelings if you are a cancer patient? Communication can help to ease the burden and break down the barriers between the patient and family members. Discussing problems and ways of dealing with them is a vital step to rehabilitation for the cancer patient.

The American Cancer Society, Long Island Division, sponsors several support groups for cancer patients and their families. The sessions are scheduled in convenient locations in Nassau and Suffolk. Day and evening groups have been initiated to reach additional individuals.

Individuals who have had recent breast surgery can join a new six-week session which begins on Friday, March 26, at Southside Hospital, at 2 p.m. A morning session for new mastectomy patients will begin on March 30, at 11 a.m., at the division offices, 535 Broad Hollow Road, Melville. Early registration is recommended.

Other support groups for mastectomy, ostomy and laryngectomy patients are also scheduled.

To register or for information, call (516) 420-1111, Ext. 48.

These services are supported in part by the Long Island Cancer Council, a voluntary, non-profit agency, funded by the National Cancer Institute.

They're paving new roads for suggestion awards

There'll be some changes made. Motivational Programs Director Richard Friedel delivered that message last year to all Grummanites about the Employee Suggestion award system. Since then, local committees have been established to speed up the approval cycle at various Grumman Aerospace facilities. In addition, there have been special "bonuses" for suggesters, such as dinners for four at the Linden Tree.

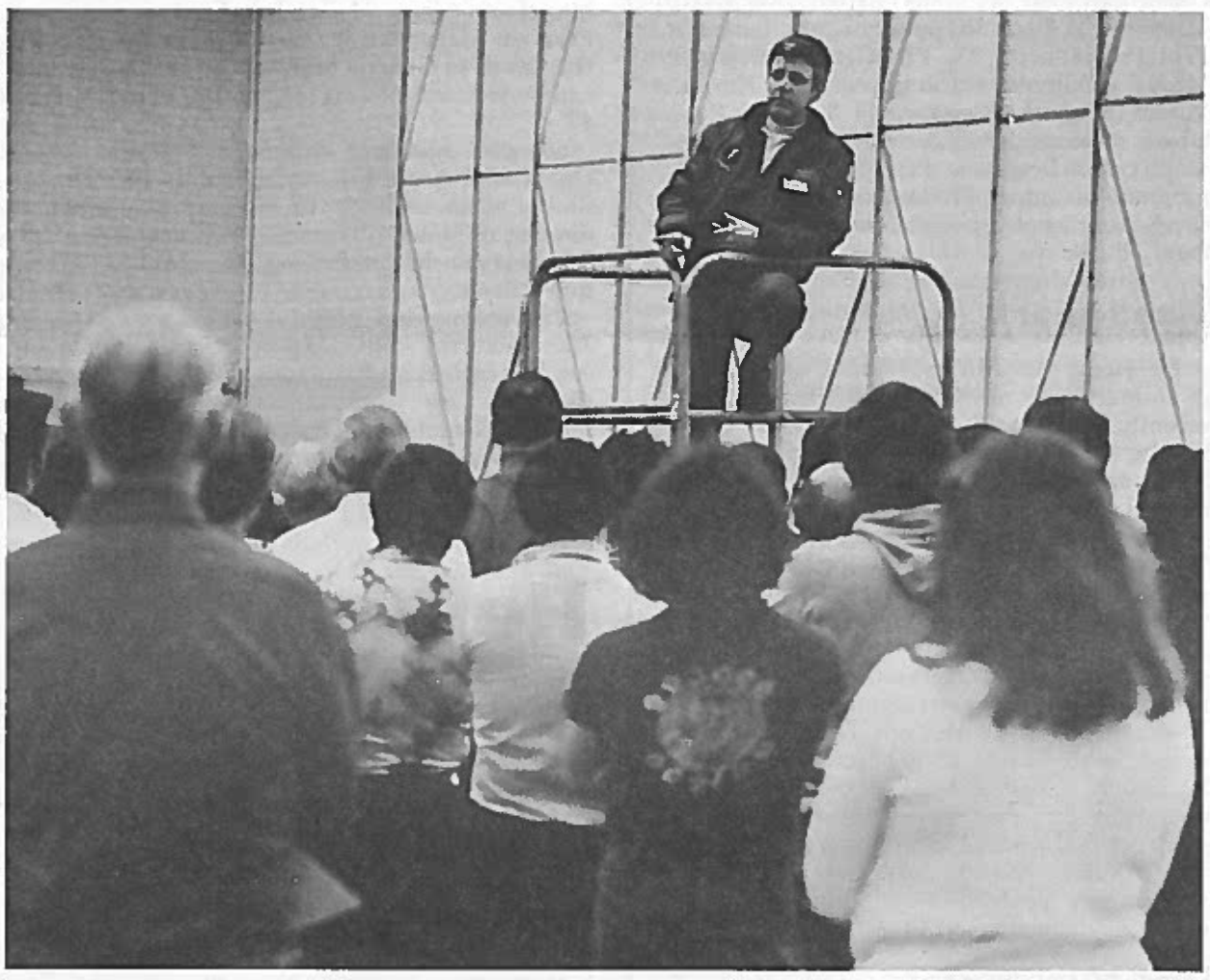
Recently, Motivational Programs announced its latest improvement in the Employee Suggestion Program. Grummanites who suggested a better way to perform their jobs, will now be given the option of determining how he wishes to receive his award -- in U.S. Savings Bonds or in the form of "award checks." Award checks can be distributed several weeks sooner, because the wait for bond applications would be eliminated.

The minimum award will remain at $25. The suggestion winners' income tax will be paid in the full amount by the company -- in lieu of $18.25 as with savings bonds. This amounts to a monetary increase of more than 30 percent over the former range of the bond awards.

In addition, the maximum award has also been increased from the previous $5,000 to an all-time high of $10,000.

Starting March 1, every Grummanite who submits a suggestion to the Motivational Programs will receive a free Rand McNally Road Atlas -- and a chance to not only suggest a better way to do his or her job, but an opportunity to earn monetary awards.

Employee Suggestion forms are available in all Employee Services (ES) offices and on bulletin boards throughout the company. Don't delay; supplies of the Road Atlas are limited.



Thank you. *Cdr. Bill Mooberry, who flies E-2Cs, thanks the people who help build them. (Photo by Bob Settles.)*

Hail to Hawkeye team

Cdr. Bill Mooberry, commanding officer of E-2C squadron VAW 125, thanked the workers of Plant 4 who helped build the planes, during a recent visit to Bethpage. Mooberry and a crew of three flew an E-2C from NAS Norfolk to have some work done on the rotodome and while they were here they toured Plants 2, 3 and 4. In a speech to the workers in a Plant 4 hanger, Mooberry said that during a recent Mediterranean cruise the squadron "worked the plane as hard as the Navy has ever worked a plane and it came through without a problem." During one 14-day period, the squadron put in 404 flying hours, but Mooberry said that "the plane was perfect. It was our butts that gave out." Mooberry told the Grummanites that "they could be proud of their work on the E-2C."

Top suggester. *That's a model of the Shuttle in the background . . . but Jonathan Kimball figured out a way to reduce the weight of the wings on a real one by six-and-a half-pounds. (Photo by Bob Settles)*

Ideal idea

Jonathan Kimball must have more than luck going for him when he submits a suggestion to Project Sterling. Out of " ... maybe six or seven" suggestions, four have received cash awards; and the latest one, for $1,250 in U.S. Savings Bonds, makes him the top winner for the month of February.

Jonathan, who works in Material Mangement on the Shuttle Wing program, suggested that lightweight titanium fasteners be substituted for steel fasteners on the shuttle wing assemblies.

"Really a very simple idea," says Jonathan. Nevertheless, the switch yields a weight savings of approximately six-and-a-half pounds per wing set, and a material savings of $771.

Jonathan's first Project Sterling cash award was for an idea he submitted in April, 1974 — when he was on the job for all of two days. "The money is a nice bonus," says Jonathan, "but I guess that's not the only reason that I enter. It's good for the company, and it's good for me, too. It's a challenge, and I enjoy it."

Other winners for February were:

$450 - Michael Sheehan, Planner, Pl. 2.

$250 - Charles Hanemann, Machinist, Pl. 43.

$200 - Donald Coffey, Tech. Electronic, Pl. 43; Jerry Edmondson, Asst. Foreman, Pl. 66; Edward Vasta, Buyer, Pl. 30.

$175 - LeRoy Brown, Processor, Pl. 6; Robert Carlin, Support Eng., Pl. 15; Dee Graves, Elect. Test, Pl. 52.

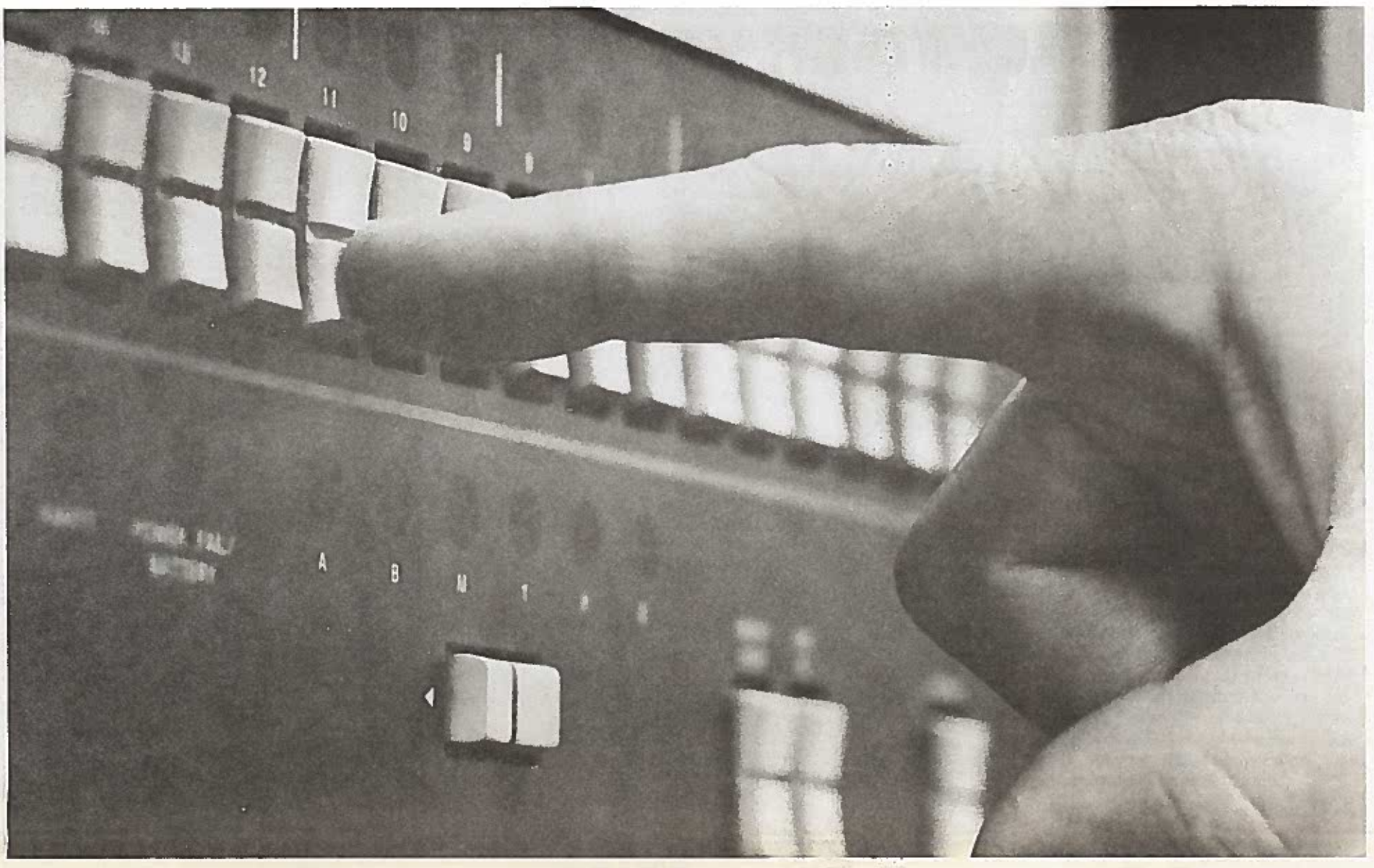
$100 - John Allio, Engr. Quality, Pl. 6; Allen McCaffery, Leadman, Pl. 6; Walter Stehlin, Keyman, Pl. 37; Michael Sheehan, Planner, Pl. 2; Steven Schaefer, Assembler, Pl. 6; Lawrence Rodenbaug, Meas. Std. Tech., Pl. 12; Arthur Schilling, Meas. Std. Tech., Pl. 12; Kenneth White, Planner, Pl. 44; Arthur Larsen, Hydraulics, Pl. 2; Charles Trillo, Stock Clerk, Pl. 2.

$125 - Robert Doolin, Controller, Pl. 6; Marian Heidel, Buyer, Pl. 44.

$150 - Jerome Kohn, Aeronautical Eng., Pl. 35.

$75 - Richard Alois, EB Welder, Pl. 2; Raymond Timmers, Leadman, Pl. 3.

$50 - Robert Werkheiser, Elect. Assembler Sr.; Peter Brenna, Stock Clerk, Pl. 6; Charles Carpenter, Writer, Pl. 25; Charles Mascaro, Analyst, Pl. 30; Sally Couluris, Analyst, Pl. 30; Donald Smith, Elect. Tech., Pl. 4



Computers: HAL or R2-D2?

Computers are part of our everyday lives.

When you use your telephone at work, you're using Ma Bell's most advanced telephone switching system. Your bills are processed by computers. Perhaps you and your children play with computerized video games. You might cook on a computerized micro-wave oven, or listen to a computerized stereo that plays songs in the order that you wish. Your supermarket checker might use a magical wand that reads stripes on your packages and the computer prints both the name of the item and the price right on your receipt list.

Some people even have their very own computers to help them keep tabs on the household finances and assist junior in his homework.

Even though we have grown accustomed to carrying around our trusty hand calculator to tabulate our check book balances, many of us still give computers the cold shoulder.

In the back of our minds, some carry around that awesome feeling that one day the computers are going to become so powerful, so almighty, that they are going to "take over." There have been numerous sci-fi articles on the subject. And a few of us, subconsciously, can't forget that mad, murderous computer HAL from the film **2001: Space Odyssey.** But we are not alone.

Throughout history, new technological breakthroughs have been mistrusted by mankind. How do you think the neighbors felt when the Smiths were the first ones on the block to use fire?

During the Industrial Revolution, many people misunderstood, feared and were even hostile toward the machinery that they thought would take away their jobs. Time has proven them wrong. Historians tell us it was no picnic to be working in the late 1700's and early 1800's. The machines did alter their way of life -- for the better.

Just as the Industrial Revolution took over an immense range of tasks from men's muscles and greatly upgraded the way of life, experts say that the computer will be assuming huge burdens of drudgery for us and give us time to concentrate on bigger and better things.

So, in the future, we all might have our own friendly R2-D2, or a computerized robot that will feed the cat and take the dog for a walk. Computerized television will allow us to program our favorite shows. Satellites will beam down energy for our households. Our car might talk and tell us its spark plugs are getting tired.

But we don't really have to look into the future to see what impact computers have on our lives. Quite possibly, you might be one of the thousands of Grummanites who are using computers on the job today.

What's happening on the computer scene at Grumman Aerospace? How has it changed the way of doing things? How do Grummanites feel about using computers? How have computers changed the careers of fellow workers? These are just a few of the many questions PLANE NEWS will be trying to answer in future articles.

Getting more input...

ATS. EIDS. MMF. MODS II. GEMS. TDS. They are just a few of the many computer systems being used by thousands of Grummanites. From designing new airframes to keeping track of inventory to testing aircraft, the use of computers has grown dramatically at Grumman Aerospace over the past two decades.

And it's evident that computers are not only here to stay, but will be used by more and more Grummanites in the years to come.

"Computers are not only an integral part of most of the Grumman systems...aircraft, missile, training systems...but today we have a management system in which almost everything we do — from controlling parts, scheduling, designing — uses computers" says Ralph "Doc" Tripp, Executive Vice President - Operations.

These "wizard boxes" have become such a significant part of the company's resources that it was decided that more emphasis must be placed on the management and priority use of this rapidly growing resource.

In late January of this year, the company announced a Corporate Computing Review Board (CCRB) "to assist in the formulation of computing priorities as well as to monitor system development efforts."

Chairing this new corporate review board is Ed Siebert, director of Corporate Systems and Procedures, whose department has overall responsibility to manage/administer computing resources for all computing activities at Grumman.

Also serving on the review board are: Tom Kelly, Vice President-Engineering; Phil Vassallo, Vice President-Procurement; Harry Kline, director of Integrated Logistics Support; Tom Harding, director of Material Management; Bob Prais of Manufacturing; Ed Kruse, Assistant Treasurer; and Bob Myers of Resources and Administration.

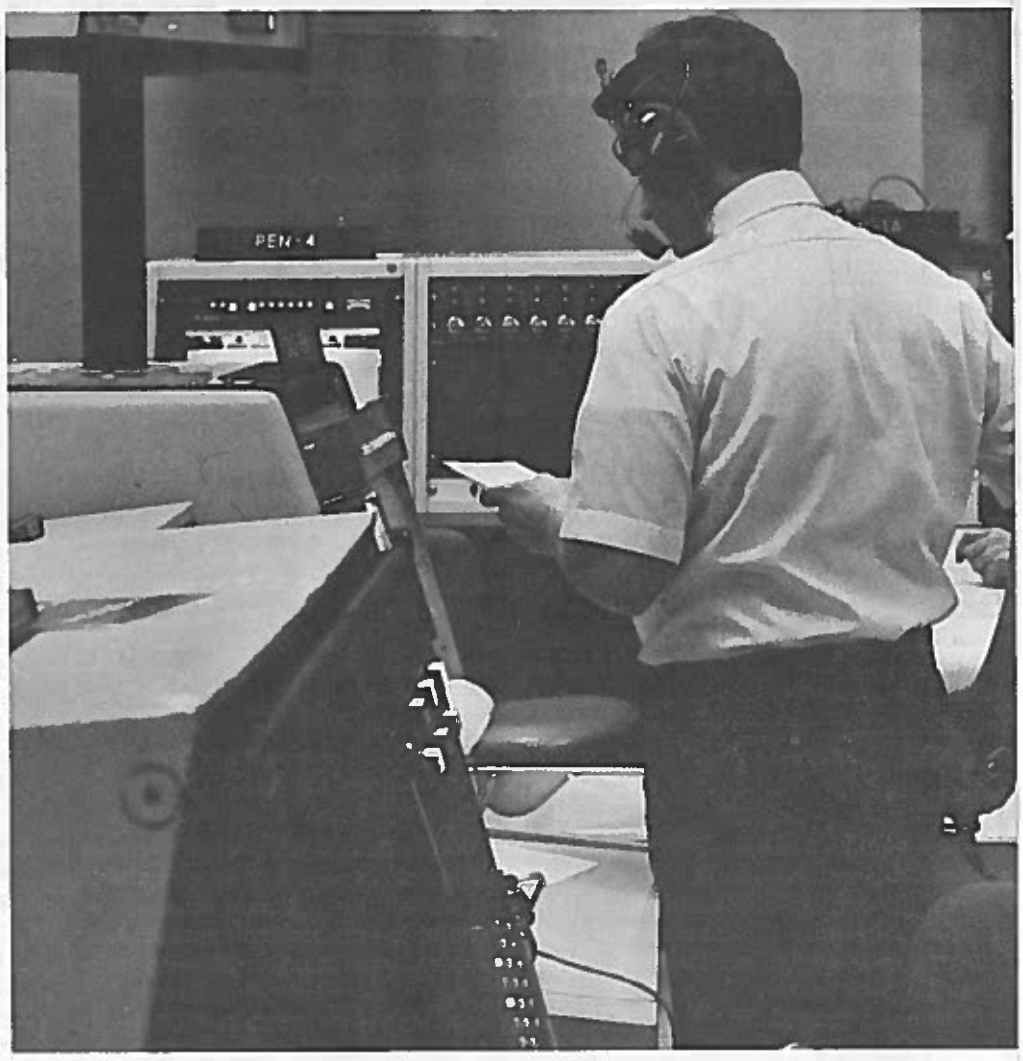
"It was a necessity that we get together," says John O'Brien, Senior Vice-President, Resources and Administration.

"We must have systems that interact better than our present ones ... and we need to concentrate our spending in the areas where we get the quickest and the best return in the company."

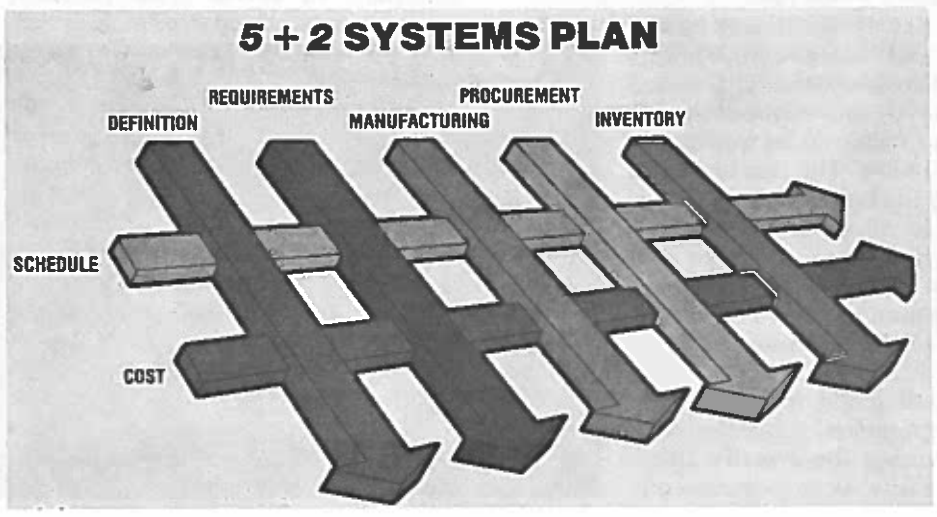
Expansion

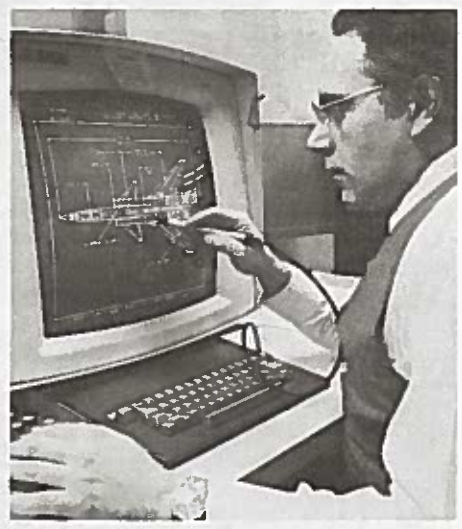
O'Brien sees this new corporate review board as the best means to enhance the return to Grumman Aerospace on this rapidly expanding area. "In the past, individual departments have moved ahead independent of the rest of the company. Therefore, we have some systems today that may do one function very well, but when it was originally designed it could have been expanded and served other areas of the company, too."

The corporate review board will meet monthly to evaluate progress and review any changes in resource allocation or priorities that may be required.



Testing Tool. *Whether it's in Grumman Aerospace's Automated Telemetry Station (ATS) at Calverton (shown at right) or in a Research lab (above), computers used more and more. (Photos by Fred Annette).*





It's a gem. *The Grumman Engineering and Manufacturing System (GEMS) is a computer-aided design, drafting and manufacturing tool that came into being in 1975. Above, an engineer can 'draw' right on the scope using a light pen; accuracy is not essential since the computer draws the lines and arcs. At right, once the part's geometry is in the computer data base, the computer itself can devise an optimum cutter route. GEMS produces programmed punched tape for this numerical controlled machine.*

to pull it all together

When it comes to computers, tying it all together is the game plan at Grumman Aerospace. In the Corporate Systems and Procedure's playbook, it's called "5+2."

When designing a new computer system, this "5+2" philosophy is followed. Basically, it takes into account the five main business functions that the company performs:

- Definition - design products
- Requirements - establish what has to be done to build that product
- Manufacturing - what must be produced
- Procurement - buy what is not manufactured
- Inventory - keep track of the items built in-house or bought to support production

The two common threads that run through all those activities are cost and schedule. Some of the information that people in the definitions' world require is also needed by people in requirements, manufacturing, procurement, and inventory. "One source feeds another," says Ed Siebert, director of CSPD. "Across the board, there should be one set of schedules and one set of cost information."

So, in the early stages of designing a new computer system, the network of people who could use the system is carefully checked out. What impact would this new system have on other departments? What information does each user department need?...

Computers are becoming more and more powerful and have taken quantum leaps as far as the amount of data it can store, how it can dispense that data, and how it can tap the data bank of other systems. For these reasons, new systems at Grumman are able to "talk" to each other. Placing/receiving information from the inside of a computer can be done not only through batches of keypunch cards, but received via DPI and CRT terminals for up-to-the-minute information.

Today's systems are capable of printing-out everything from work orders, to numerical control tapes, to engineering drawings to controlling the wire cutting operations. And, with the speed at which computer technology is advancing, there are no holds on the future.

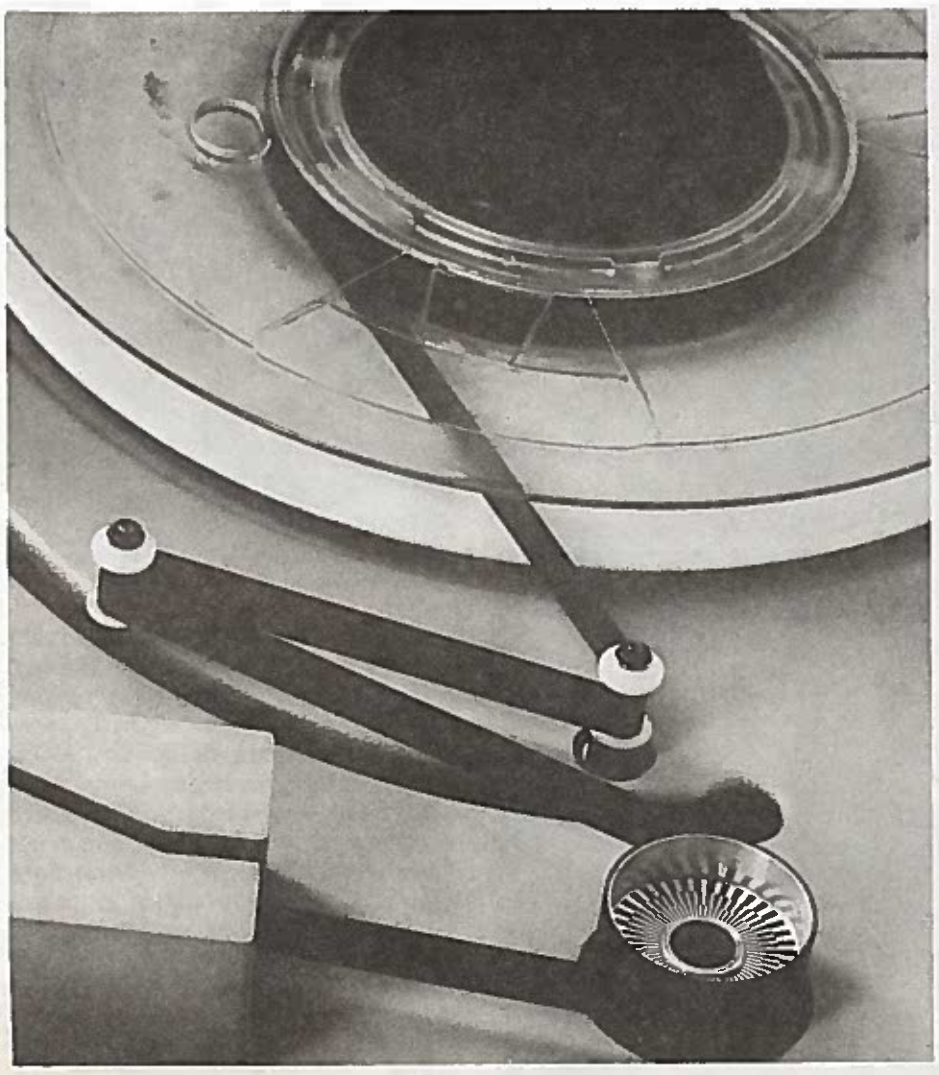
CSPD faces two major challenges, says Siebert. "We've got to help Grummanites understand how to use one another's information to the fullest. And, there's an even bigger issue at stake: to show the government, our customer, that our '5 + 2' plan helps make Grumman Aerospace more cost effective.

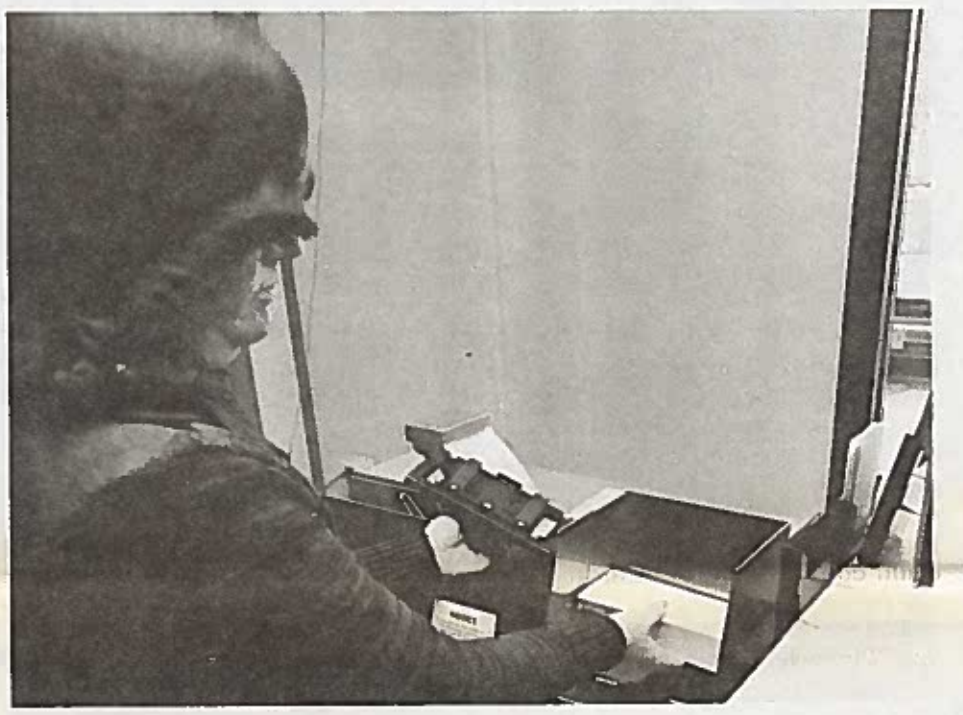
"We've made progress on both fronts."

Only obstacle

The main obstacle to future growth of Grumman's computing systems lies in near-sightedness.

"Acceptance of computers is an attitude. For instance, you trust your bank, even though you know it doesn't have a private computer for your account," says Siebert. "The same holds true for a department. It can't have its own private computer and own private data base. For Grumman to best utilize computers in the future, it's a fact of life that everyone is going to have to pull together."





Computer tidbits

"Computerese" has become an integral part of our vocabulary. When we interface with others, they give us input and we supply them output.

Here's just a quick rundown on some of the terms used in the computer world at Grumman:

• **Hardware.** That's the machinery itself, while

• **Software** is the programs that control the computer. (In other words, instructions that tell the computer what to do.)

• **Time sharing** allows a lot of different users access to computer facilities. The user sits at his distant terminal, types in a problem, and then almost instantly receives a reply from the computer. The key to time sharing is the computer's enormous speed and capacity. Since each problem takes only a fraction of a section, the computer automatically divides its time among the users, giving each a small slice of time, measured in thousandths of a second, in a scheduled sequence.

• **CRT** (Cathode Ray Tube) is very similar to a television screen. It is usually found with a teletypewriter which is "hooked up" to a computer system. As a set, you can put information into the computer's memory, or ask the computer to retrieve data from its memory. Of course, the computer can also answer questions, tabulate, or anything its programmed (instructed) to do.

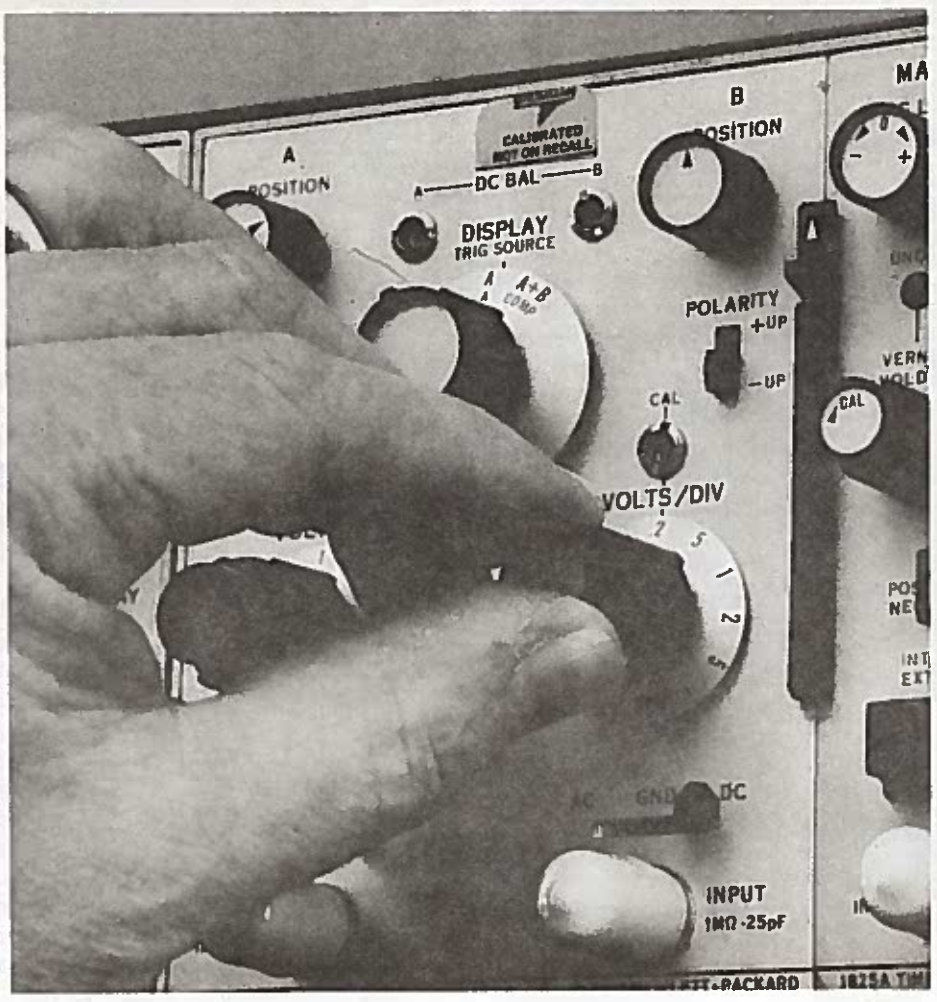
• **Real-time, on-line system** is when you can punch an inquiry on a keyboard (teletypewriters) and instantly get an answer.

• **Batch** is the opposite of real-time, on-line system. You submit a batch of keypunches cards or tapes and your job is processed in order of priority of users.

• **Systems analyst** is a person who is the liaison between the user and the programmer. He or she investigates what is needed to do a job by/with a computer.

• **Programmer** is a person who draws up the instructions for the computer in the computer's language (FORTRAN, COBOL, etc.).

• **Hard-line.** If your terminal is hooked up to the computer via telephone cables/wires, then it is on hard-line. If you are hooked up via statellite, it's by soft-line.



Shuttle menu looks out of this world

The meals on the Space Shuttle orbiter may not be up to the standards of Julia Child, but the views will outdo any you can find while dining at Windows on the World. Actually, according to the latest word on the subject from NASA, American space travelers will probably be better fed than most of us remaining here on Earth.

A typical dinner in space may consist of shrimp cocktail with sauce, beef steak, broccoli au gratin, strawberries, pudding, cookie and cocoa. And that is only one of six daily dinner menus that will be carried on board.

The new feeding regime on the Space Shuttle orbiter will be a far cry from the meager table set for the Mercury and Gemini astronauts who had to squeeze lukewarm pastelike food into their mouths, or chase after free-floating crumbs in the zero-gravity cabin. The orbiter astronauts will dine on piping hot entrees, with ketchup on everything if they like, from a real oven that can heat meals to 85° Celsius (185°F).

There will also be a much greater variety of food on board the orbiter than on previous flights; 74 kinds of food and 20 varieties of beverages will be available. Daily calorie intake for each astronaut will be 3,000, the same number as consumed by ground-based people.

The varied types of food planned for the Space Shuttle include thermal heat/processed foods, canned or packaged in laminated foil pouches, such as beef with barbecue sauce; food preserved by controlling moisture, such as dried apricots; dehydrated foods reconstituted with water, such as chicken and noodles; foods exposed to ionizing radiation to effect preservation, such as bread and rolls; freeze-dried foods, such as shrimp.

The aim of the orbiter food program is to serve food that will be both tasty and nutritious, as well as attractive to the eye.

More hams

(*Continued from page 2*)

Courtney recalls. "You'd be here at 3 a.m. talking to Vern on the radio, and all of a sudden he'd say something like, 'Well, I'm gonna get off now -- there's a group of armed Iranians in the area,' and then he'd shut down. There was nothing much you could do but sit and wait for him to come back on again."

The name that Vern gave his station in Isfahan was "Pinnacle." At one point, Schubnel remembers, Vern was especially tense about roving mobs in the area and said, "You know, we ought to change the name of this station from 'Pinnacle'...I suggest 'Nightmare.' "

"When you're 5,000 miles away, there's not an awful lot you can do," says Schubnel. "Sometimes it seemed that what we were providing was just psychological support...simply the reassurance that they weren't cut off, that there was someone out there listening for them."

However, on February 14 the radio club was called on for a little practical assistance. "Hey, you know it's Valentine's Day," Hardy said, "And the guys here can't exactly wire flowers home. They sure would appreciate it if you'd take care of that for them."

The bouquets were promptly dispatched.

Because they were concerned that their communications to Bethpage were being monitored by the Iranian government, sometimes Vern's messages were rather cryptic. They talked about the "picnic" they were planning, which was the code for their departure from Iran; what day the picnic would be, what time, and so forth. They would each be taking two "baskets" -- two pieces of luggage.

The radio club taped some of their conversations with Vern. Under the high-pitched squeals, static, and electrical buzzes are the sounds of tension. concern, and sometimes humor...and always the eerie realization that the voices have reached through the air and gone halfway around the world to each other. It is somehow disturbing to listen to.

But on Tuesday, February 20, the radio club's log book records the message they had been waiting for.

"Call the wives," says Hardy, "we're coming home."

the way it was

"It used to be more personal and more friendly," laments Mary Muro, Grumman's chief telephone operator, remembering the days when the company's telephone system used the old fashioned plug board, instead of the electronic switching system of today.

PLANE NEWS talked to some of the small group of women who used to keep all of Grumman's telephone communications going. Eleanor Reitz, who served as a telephone operator from 1942 until her retirement in 1973, remembers the days when "we handled everything, every single call that came in and every call that went out. Some days you couldn't keep up. The board would look like Coney Island, with lights flashing all over the place."

Eleanor says that "when President Roosevelt died, the board was lit up all day. People kept calling in and asking us if it were true. I don't know why they called us."

When all outgoing calls were placed through the plug board "you would get to know the different voices as they placed a call," says Mary Muro. "Sometimes you would get friendly with a voice that had become familiar." Now no outgoing calls go through the operators and Mary feels that "it's just not as friendly."

There were three special lights on the bottom of the board, she says, "and if the red light came on you answered it immediately because you knew it was Mr. Grumman or Mr. Swirbul."

Frances O'Connell, who worked as an operator from 1942 until her retirement in 1977 remembers well the old fashioned equipment used with the plug board. "The earphones weighed a ton," she says. "They left a permanent indentation on my left cheekbone. And you had to be careful putting on the headset. It could ruin a hairdo very easily."

"Your ear would get hot and sore from the earphone," says Eleanor Reitz. "You had to keep switching it from one ear to the other during the day."

Before the days of an automated telephone system, the switchboard was manned 24 hours a day and there were as many as 17 operators working. Now they number five and the phones are manned only from 7:30 a.m. to 5 p.m. for those incoming calls that aren't dialed directly to an extension.

The first head operator at the Bethpage facilities, Marie Ogilvie, trained the operators at Grumman by emphasizing the importance of answering the phone properly. Mary Muro recalls, "Mrs. Ogilvie always would tell us, 'You are the door to the company so you have to make a good impression.' I'll always remember that."

Memories *Grumman telephone operators in their first quarters at Bethpage in Plant 1 (circa 1942) (L to R) Florence Lauck, Ella Gebhardt, Eleanor Reitz, Bea Montana and Marie Ogilvie, Grumman's first head telephone operator.*

W.A. Swanson

L.T. Jaret

E.W. Becht

E.A. Andrews

J.V. Minicozzi

J.J. Sinnot

R. Mallin

R.A. Jasinkonis

J.A. Neyssen Jr.

service milestones

35

Dominick D. Taurone, Flt. Devel. Ops. (7)
Douglas Rasmussen, Matl. Cntrl. (21)
Nicholas Messina, Tech. Rqmnt. (40)

George M. Skurla, Chairman and President of Grumman Aerospace.

30

Burton H. Pettit, Major Assy. (1)
Robert P. Bauman, Jr., Tech. Rqmnt. (1)
Gordon J. Alger, Steel Parts Assy. (2)
Chris E. Boccaccino, Matl. Off-Site Suppt. Cntrl. (2)
Angelo J. Durante, Prod. Eng. (2)
Louis Pastore, Bus. Office (2)
John V. Sirvis, Opt. Tooling (2)
Theodore L. Switzer, Honeycomb Final (3)
John W. Nordstrom, Tool Maint. & Repair (3)
William Kielbasa, Elect. Test (4)
William Fox, Out-of-Prod. Spares (4)
Bernard P. Riemer, Prod. Super. (4)
William J. Bartoszak, Insp-Mech. (4)
Hobart N. Anderson, Prod. Plng. (5)
Herman J. Schonenberg, Public Affairs (5)
Bruno Jakob, Instruct./Anal. (6)
Thomas G. Simken, Elect. Fab. (7)
Harley G. Spinks, Prod. Mgt. (7)
George R. Rose Jr., Airport Ops. (7)
Edward J. Dietz, Flt. Ops. Insp. (7)
Dorothy Kouwenhoven, Invent. Plng. & Anal. (30)
John M. Tilford Jr., Adv. Plnng. (30)
David M. Dudick, Gen. Commod. (30)
Joseph L. Jurgens, Gen. Commod. (30)
Frances M. Bunyan, Supp. Admin. (30)
Rudolph H. Dempster, ILS Verif. & Suppt. (35)
Charles W. Bogardus Jr., B/P Warehouses (37)
Carl A. Lubin, Subcontract. Surv. (40)
David C. Gaynor Jr., Prod. Cntrl. (43)
Robert J. Wood, Elect. Eng. (43)
Valentino Tassone, Elect. Harn. Fab. (44)
Robert J. Allen, Tool Eng. (77)
Herbert Herrmann, Suppl. Cntrl. (89)

25

Arthur Mauriello, Major Assy. (2)
Walter A. Swanson, Prop. Test (2)
Leroy T. Jaret, Mfg. Admin./Proc. (2)
Edward W. Becht, Die Shop (2)
Ernest A. Andrews, Maint. (2)
James V. Minicozzi, Maint. (2)
John J. Sinnot, N/C Mach. (3)
Robert Mallin, Mach. Oper-Parts Cntrl. (3)
Robert A. Jasinkonis, Maint. Admin. (3)
John A. Neyssen Jr., Syst. Test/Flt. Integ. (4)
Henry W. Lada, Trans-Ops. (5)
Harold M. Moss, Adv. Syst. Tech. Mgt. (5)
David L. Walsh, Bus. Devel. Mgt. (5)
Jim Peters, Prod. Mgt. (7)
G.E. Garner, Maint. (12)
Henry C. Fricke, Maint. (12)
Frank Kojick, Elements & Matl. Test Lab. (12)
Orlando Vescio, Mech/Fluid Syst. Test (14)
Herbert F. Kiesewetter, Tech. Direct. (25)
Thomas F. Malone, Suppl. Admin. (30)
Neal A. DeLuca, Contour Devel. (35)
Daniel Fass, Ops. (35)
John Umstetter, A/C Prog. (35)
Violet M. Pratesi, ILS Secret. Serv. (40)
Daniel J. Anelli, Mech. Dtl. & Finish (43)
Aloysius Bischof, Inspect./QC (77)
William Leonhardt, Flt. Test (88)
Charles A. Farrell, Avion. Test (111)

20

James M. Newland, Prod. Cntl. Parts Cntrl (1)
Edward T. Jacobs, Tool Maint. & Repair (1)
Robert T. Tolle, ILS Equip. Tech. Mgt. (1)
Anthony J. Bellittieri, ILS Mech. Eng. Des. (1)
Charles J. Lekoski Jr., ILS Mech. Eng. Des. (1)
Charles T. Gelling, ILS Resource Cntrl. (1)
Donald F. Reis, ILS Rqmnt. Def. (1)
Jack Krammer, ILS RF/Cntrl. (1)
Stephen Gamrat, ILS RF/Cntrl. (1)
Robert J. Williams, ILS Syst. Des. Eng. (1)
Arthur Martin, ILS Suppl. Ops. Proj. Mgt. (1)
Bernard Spizuoco, Matl. Off-Site Suppt. Cntrl. (2)
Galen D. Area, Jigs & Fix. (2)
Nicholas P. Calabria, Jigs & Fix. (2)
Salvatore Pavese, Mach. Shop (2)
Thomas R. Loughran, Form Block (2)
George T. Ver Cruysse, Form Block (2)
Michael V. Dambrosio, Tool Cntrl. (2)
Victor E. Smits, Jigs & Fix. (2)
Alfred Collins, Food Serv. (2)
William B. Johnson, Spot Weld. (3)
Orlando J. Rainone, N/C Mach. (3)
Beatrice A. Barry, Mach. Ops. Tech. Serv. (3)
George Sheredos, Non-Metals Finish. Eng. (3)
Henry J. Baluta, ILS Digital Eng. (4)
Henrietta J. Wallace, Suppt. Equip. Prod. (5)
Thomas D. Wood, Present. Serv. (5)
Homer C. Potonides, Fluid Mech. (5)
Frederick V. Reiff, Corp. Syst. (5)
Douglas Crooks, Elect. Mech. ILS Suppt. (6)
Romeo Cammisa, Prop. & Fluid Syst. Prod. Suppt. (6)
Augustino Cammalleri, Corp. Instru. Syst. (7)
Gary S. Sennes, Flt. Ops. (7)
William F. Noonan, Flt. Avion. (8)
Dorothy P. Weed, Matl. Mgt. (8)
Philip W. Neidringhaus, QC Lab. (10)
George G. Evans, Templates (11)
Louis P. Nardo, Reliability (14)
Frank A. Fitzgerald, Lab Mgmt. & Tech. (14)
Arthur F. Molnar, Repro. Serv. (15)
George H. Morton, Est. Resources (15)
Leonard O. Vaughan, Cntrl. (17)
Shirley A. Murray, Plt. Protect. (18)
Morris Turner, Trans. Ops. (20)
Howard L. Dong, Cent. Receiv. (24)
William R. Burleson, Receiv. Insp. Gen. (24)
James J. Hopkins, Fluid Power/Pyrotech. (25)
Joseph F. Rom, Reliability (25)
Leonard L. McCoy, Safety & Maint. (25)
Peter A. De Rosa, Elect. Equip. Des. (25)
Warren W. Soper, Software Anal. & Des. (25)
Leslie G. Rooney, Prog. Contracts (25)
Robert W. Mullaly, Config. Data Mgt. (25)
Redmond W. Scott Jr., Mach. Parts/Matl. (30)
Marilyn J. Lage, Gen. Commod. (30)
Alice G. Brennan, FAC Admin. (30)
James J. Ryan, Suppl. Admin. (30)
Veronica A. Franz, Invoice Audit (30)
Michael C. Argenio, Safety & Maint. (31)
Joseph P. Haller Jr., Softwre. Devel. (31)
James R. Gould, ILS Log. Syst. Devel. (35)
Heinz P. Baumgartner, ILS Elect. Eng. (35)
Peter C. Lugbauer, Performance (35)
Michael E. Antonucci, Reliability (35)
Richard T. Weil, Ops. (35)

H.W. Lada

H.M. Moss

D.L. Walsh

J. Peters

G.E. Garner

H.C. Fricke

F. Kojick

O. Vescio

H.F. Kiesewetter

T.F. Malone

N.A. DeLuca

D. Fass

J. Umstetter

V.M. Pratesi

D.J. Anelli

A. Bischof

W. Leonhardt

C.A. Farrell

Walter Meinck, ILS Train. Syst. Eng. (36)
George E. Mitchell, ILS Rqmnt. Def. (40)
John L. Rebholz, Power Plt. Des. (40)
Howard Fine, Equip. Therm. Des. (40)
David C. Engle, Syst. Integ. (40)
Murray A. Brill, Reliability (40)
Sidney Pearlman, Reliability (40)
Richard A. Wies, Computer Arch. (40)
Robert J. Henke, Elect. Mech. Des. (40)
Eugene W. Hansen, Tech. Direct. (40)
Robert G. Ward, Mfg. Rqmnts. Plnng. (43)
Carmelo D. Femia, Prod. Cntrl. (43)
Richard E. Johnson, Meth. Eng. A/C (43)
Glen O. Kerrebrock, Safety & Maint. (53)
R. Ray Weeks, Avion. Maint. Sqd. (60)
Anthony Locascio, Tehran Mgt. (60)
John L. Weiler, Thermal Syst. (72)
John R. King, Prod. Mgt. Staff & Shop (77)
James C. Porter, Tool & Prototype (77)
Frank Vozzolo Jr., Dassault (77)
John Sydoriak, Dassault (77)
Mitchell M. Peresad Sr., Tool Eng. (77)
Ivar E. Ringdahl, Engineering (77)
Richard L. Centner, Mission Ops. (84)
John L. Arola, Base Mgt. (88)
Raymond J. Madrazo Jr., Flt. Test (88)
Lloyd A. Nevala, Supt. Equip. Serv. (94)

15

Albert Umbach, Elect. Fab. (1)
Salvatore C. Capitano, ILS Resource Cntrl. (1)
Clifford C. Seaman, Trans-Ops. (1)
Eugene R. Galatro, Ctr/Sect. Sub-Assy. (2)
Anthony Alaimo, Fuselage Join. (2)
Edward J. O'Rourke, Assembly (2)
Joseph W. Warren, Matl. Off-Site Suppt. Cntrl. (2)
Felix M. Garlasco, Mfg. Est. (2)
Richard W. Tiedemann, Assy. Meth. (2)
Claudio J. Bosque, Jigs & Fix. (2)
Bart J. Verga, Die Shop (2)
Ralph Porcello, Form Block (2)
Paul W. Sustman, Jig Dtls. & Sub-Assy. (2)
John P. Barry, Jig Dtls. & Sub-Assy. (2)
Philip E. Gervasio Jr., Honeycomb Prep. (3)
Albert F. Bainton Jr., Matl. Mgt. (3)
Ferndinando Savio Jr., Comp. & Adhesives (3)
Frederic L. Rotzinger, QC Lab. (3)
Pierre C. Jelis Jr., Flt. Ops (4)
Morton Kommel, Softwre. Devel. (4)
Wilfred B. Kleisler, Flt. Safety & Suppt. (4)
William Lanigan, Wood Shop (5)
George F. Milione Jr., Environ. Cntrl. & Test (5)
Andrew J. Bonavita, Bus. Mgt. (5)
Floyd A. Camp, Environ. Cntrl. Des. (5)
Jerry L. McFarland, Struct. Test. (5)
David H. Penrose, Facilities & Lab. Suppt. (5)
John E. Palumberi Jr., Ops. Anal. (5)
August S. Sclafani, Adv. A/C Syst. (5)
Frank E. Mapes Jr., Instr. Test (6)
Stanley Duroski, Elect. Instal. (6)
Robert C. Steneck, Structures (6)
Emilio D. Urciuoli, Assy. Meth. & Plnng. (6)
William F. Wilber, Mach. Shop (6)
Adolf F. Borra, Mach. Shop (6)
Rosario A. Bracco, Perf. Prop. (7)

Hans O. Kampmann, Corp. Instru. Syst. (7)
Joseph F. Barszczewski, Corp. Instru. Flt. Data (7)
Anthony J. Barile, Maint. Admin. (12)
Phillip M. Parsons, Maint. (14)
Howard S. Saltzman, Lab. Mgt. (14)
Richard W. Lamont, ILS Pub. Proj. Mgt. (15)
Gerald W. Rowles Jr., ILS Prod. (15)
Robert E. Fowler, Traffic (17)
Alfred E. Berka, Plt. Protect. (18)
James H. Bailey, Electro-Mech. Lines (25)
Henry C. Sutton Jr., Equip. Therm. Des. (25)

William A. Botticello, Red. Struct. (25)
Timothy F. Casey, Syst. Anal. (25)
Joseph A. Smith, Syst. Integ. (25)
Arnold Seidon, Elect. Countermeas. (25)
George A. Patterson, Ops. (25)
Frank W. Dunroe, Eng. Test Ops., Proj. Eng. (25)

scorecard

The temperature is only 20 degrees and the wind is blowing at 15 knots. The ice on the lake is a shiny mirror, eight inches thick. It sounds like a good day to sit in front of a fire, but not for Reuben Snodgrass, operations manager for Automated Telemetry Systems at Calverton. You'll find him flat on his back on an iceboat, head craning, sailing down the lake at 40 m.p.h.

Snodgrass is not a masochist, but you have to get him to talk about the joys of accelerating away across the ice, the fun of tinkering on the boat or the thrill of competition before you can understand why he is out there. There is no protection from the elements on an iceboat which is as basic a vehicle as you can get. An iceboat is simply a long narrow hull, outfitted with metal runners, a mast and sails.

Snodgrass began racing iceboats in 1958, when he saw his first DN class boat. "I had seen iceboats before, but they hadn't appealed to me until I saw the DN," he says. "I liked it because of its size and portability. I bought a used one and just took off from there." He took off so fast that by 1962 he had won the DN national championship in his 12-foot boat called "Wild Blue."

In 1965 Snodgrass bought another boat, a 38-foot Hudson River yacht, originally built in 1906. It had been stored in a barn for many years and needed a long period of patient rebuilding to bring it once again to its former glory.

The Hudson River craft date back to the heyday of iceboating, in the latter part of the last century, when Hudson Valley yachtsmen built enormous iceboats with huge sails and raced on the frozen river. Snodgrass' boat was not one of the larger ones but its 450 sq. ft. of sail dwarfs the DNs, which carry only 60 sq. ft.

A year ago Snodgrass took his refurbished boat called "Cold Wave" to Red Bank, New Jersey, to the revival of an iceboating race that had not been sailed in 87 years. Fourteen of these classic yachts competed for the $20,000 Tiffany silver Van Nostrand Cup, which had been won by the North Shrewsbury Ice Boating Club in the first and only competition in 1891. While the cup was won by the North Shrewsbury Club once again, individual honors went to Reuben Snodgrass, who had the best single record in the five races of the competition.

The big "Cold Wave" is raced only on special occasions; most of the time Snodgrass races in his DN. He has sold his original DN and has just finished building a new one, launched only last month. The iceboating season is a short one, lasting from Christmas to mid-March at best, but each weekend iceboaters are out there, searching for the perfect ice and the perfect wind. And if conditions are poor, they can always spend their time tinkering. "If you didn't enjoy working on your boat, you wouldn't go into iceboating," says Snodgrass. "Sometimes that's all there is to do."

Skimming along. *Reuben Snodgrass (right) and crewman racing across the ice in Cold Wave.*

Flower show

The Grumman Garden Forum recently announced its 1979 flower show schedule.

Spring Show - Wednesday, May 9, in the Plant 5 cafeteria. Manager: Kay Trestka, Ext. 5363.

Rose Show - Wednesday, June 13, in the Plant 35 cafeteria. Manager: Pete Haring, Ext. 6751.

Fall Show: Thursday, September 13, in the Plant 30 cafeteria. Manager: John Gatti, Ext. 4591.

As the show dates draw near, PLANE NEWS will publish additional information.

Masters of the lane

The fellows in the Masters bowling League had plenty to celebrate about recently. Two of their comrades killed the pins for over-700 series.

Grover Hart rolled 235-246-267 for an all-time high of 748. John DiSalvo bowled games of 254-209-243 for total of 706.

Super

On Friday, March 23, Grummanite Ken Sommer will be inducted into the Metro-Long Island Amateur Softball Association's (ASA) Hall of Fame. During the fifties Ken played outfield for the Grumman Yankees, in addition to playing for other outstanding Long Island softball teams. He was named All World twice.

One of five persons to be named to the Hall of Honor is the late Charlie Lehecka, manager of the Grumman Yankees from 1939 to 1951.

Tickets ($15 per person) for the annual honors ceremony at Wheatley Hills Tavern are now on sale at the GAA office.

Top keglers. *After weeks of roll-off competition, these Grummanites made the 1979 varsity teams. At left, the women's varsity (L to R) front row: Carol Glasser, Sandy Ritz, and Bella Cherry; back row: Lu Ann Calsetta, Maureen Croes and Donna Birkel. At right, the men's varsity (L to R) front row: Ernie Neves, Joe Russo, Lenny Trifaro, and Judge Locke; back row: Jack Nielsen, Frank Tucholski, Ted Dija, Ed Gabriel, Dave Evans, and Ray Zeller. (Photo by Marie Trimborn)*

Bowling varsity teams burning alleys

If the record-breaking Grumman mixed bowling varsity's performance is any indication of what's to happen this year, Grumman is in for a dynamite championship season.

On Saturday, February 24, the mixed team consisting of the top two players from the men's and women's varsity joined forces to chop wood for an all-time tourney high of 2,416 pins. They smashed the previous Pan Am Mixed Industrial tourney record of 2,347 pins set by Grumman back in 1971.

Jack Nielsen led the Grumman assault by rolling an average of 226.3 for a three game series of 231-227-221-679. That not only set the pace for the Grummanites, but also earned Jack a place in the Pan Am Mixed Industrial record books for men's high series.

Top woman kegler this season is Sandy Ritz, who is taking no time in establishing herself as one of the best women keglers to don a Grumman varsity uniform. Sandy rolled a new tournament high game of 267 for her first contribution. Then, she went on to bowl 200 and 178 for a new women's high series of 645.

Update

As PLANE NEWS was ready to roll off the presses, GAA reported the results of the second night of play in the annual Long Island Industrial Bowling Tourney.

Grumman still resides in first place with a total pinfall of 5,626 -- 217 over second place Nassau County Employees. The defending champions, Pan Am are 335 pins behind Grumman.

The Grumman team also leads the pack in the incentive division, by bowling 120 pins over its average. Judge Locke is tied for first place for total pins knocked down, 1,195. Teammates also in the running for top bowler honors are Ed Gabriel, 1,160; and Lenny Trifaro, 1,146.

Teammate Maureen Croes, a varsity veteran, rolled a 220-548 series, while Ed Gabriel bowled a 223-544 series. It seems Ed was just warming up for the 38th annaul Long Island Industrial Men's Invitational Tournament that began a week later on Saturday, March 3.

Averaging 203, Ed led his varsity teammates in the first outing by knocking down the pins for a 213-236-620 series. Judge Locke contributed additional pinfall of 237-203-619, while Lenny Trifaro bowled a 203-551 three-game series; Jack Nielsen, 203-573; Don Evans, 175; and Mike Greggo, a two-game series of 401.

Good start

After the first round, Grumman found itself in first place over Nassau County by 156 pins. In addition, Grumman rolled first and second high team games. Judge Locke and Ed Gabriel had 237 and 236, respectively, for first and second high individual games and Gabriel was once again in the race for outstanding bowler honors -- only 23 pins behind tourney leader Bill Christensen of Newsday, with 643 pins.

When PLANE NEWS went to press, the varsity was to play the second round at the Mid Isle Lanes in Hempstead.

38 years in a row

The remaining two rounds will be bowled on March 17 and March 24 at 8 P.M. Sixteen Long Island companies are fielding five-man teams in the 38th annual L.I. Industrial Invitational Bowling Tournament, sponsored by the Grumman Athletic Association.

As in previous years, the tourney is a scratch event with three games being rolled in each of the four rounds. While total pinfall determines the winner of the Jake Swirbul Championship Trophy, there is also the Incentive Trophy that can be won by the team which bowls the most pins about its established average.

After the first round, Grumman led the field by rolling 185 pins over its average.

Spectators are more than welcome. The Mid Isle Lanes are located on Penisula Blvd. in Hempstead, just two blocks north of Southern State Parkway.

After the men finish their competition, the Grumman women will be going after their 19th L.I. Industrial title on March 31, April 7 and April 14, at Mid Isle Lanes.

If the women bowl the way they did during their varsity roll-offs, they've got the championship wrapped up.

In the eight-game trials, Sandy Ritz led the field with 1,514 total pinfall for an average of 189.25. Next in line were Maureen Croes, 1,494 total wood for an average of 186.75; Arleen Schwemmer, 1,448; Carol Glasser, 1,440; Bella Cherry, 1,391; Lu Ann Calsetta, 1,340; Rose Dailey, 1,339; and Donna Birkel, 1,306.

Last year, the women successfully defended their L.I. Industrial title by rolling a record pinfall of 8,431 for the 12-game event. If they play as they did during their varsity trials, once again they'll be stepping into the winner's circle.

The top four women averaged 184 as a team during the roll-offs. At that pace, they'll break the tournament records by 401 pins.

Score. *2½. Plant 2 Manager John Schneider (R) shakes the hand of the man who just had his 25th employee suggestion award approved: Jim Eng, who works in Component Test, receives a diamond pin commemorating his suggestion milestone.*

Planning getaway

How does touring the Irish countryside in September sound for a vacation? Interested in visiting the Grand Ole Opry in April? The Grumman Athletic Association is sponsoring trips to Ireland and Tennessee this year. All Grumman employees, families, retirees and friends are invited to register.

IRELAND - September 27 to October 5. This European vacation package includes round trip jet transportation; full Irish breakfast, the Medieval Castle banquet, a Dublin cabaret evening with dinner, and four additional dinners; touring bus and entrance fees to the following: full day tour of Killarney; Waterford Crystal Factory; Trinity College, the Old Parliament, St. Patrick's Cathedral, Georgian Dublin; Ireland's horse racing center; all local taxes and gratuities directly related to above services; and all accommodations. The cost of the trip to Ireland is based upon occupancy per room: single - $798 per person; double - $735 per person; triple - $717 per person. Sign-up will take place on Wednesday, April 25, at 5:30 p.m. in the Plant 28 auditorium. At this time, a deposit of $100 per person is required.

NASHVILLE, TENNESSEE April 25 to May 2. Included in this eight-day vacation package are: round-trip transportation via bus; all motel accommodations; four dinners; tour of Nashville, Country Music Hall of Fame; Grand Ole Opry; Opryland; dinner cruise with entertainment;

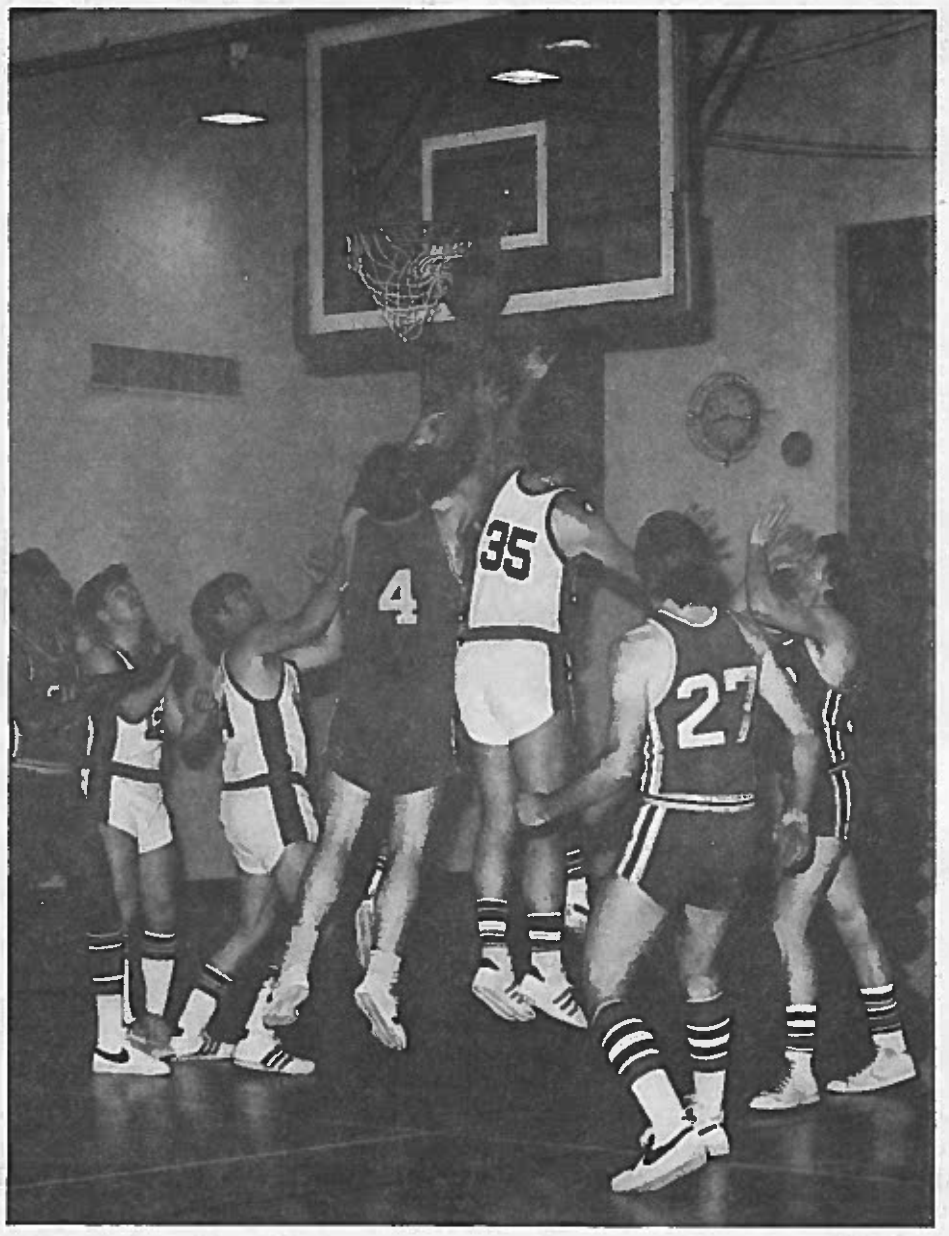
Birthplace of Abraham Lincoln; Luray Caverns; the Natural Bridge of Virginia; the Home of the Kentucky Derby; Rock City; and Chattannooga, Tennessee. Once again, the cost of the bus trip is based on occupancy per room: $297 for single occupancy, $264 for double; and $254 for triple.

Women begin varsity practice

During the last two weeks in March, Grumman women will have the opportunity to sign up to play this season in the Women's Independent Long Island Industrial Softball league.

The Grumman varsity team's organizational meeting will be held on Wednesday, March 21, and on Thursday, March 29, at 5 p.m., in the Plant 15 buffeteria.

For additional information, contact Ken Kretschman, Ext. 5708; or Chet Baumgartner in the GAA office, Ext. 2133.



Under the boards. *The Grumman Hellcats (dark uniforms) scramble under the hoops. (Photo by Bob Settles)*

Defense paying off

For the past two years, the Grumman varsity basketball team has been concentrating on a balanced attack. Obviously, it's paid off handsomely for the Hellcats -- they've successfully defended their Long Island Industrial league title. With an unblemished season of 10 wins and no losses, they've boosted their winning streak to 20 games.

More input

The Grumman hoopsters were also able to carry over their winning combination to the Glen Cove Basketball League, considered by many to be the toughest league on Long Island. The Hellcats finished the regular season in first place. When PLANE NEWS was going to press, the varsity was to play the first round of the play-offs in the "B" division.

Throughout the season, the Grummanites relied heavily on a tight man-to-man defense. "We tried to force our opponents into foul trouble," says Tony Razziano, team coach. "It worked nicely in the first half of the season, but the other company's picked up on our strategy by mid-season, and we were forced to change our attack."

While the Grummanites still aimed at controlling the boards at both ends of the court, they began to execute an all-court, double-teaming press when they got into trouble. The tide always turned for the Hellcats.

Powerful line-up

"We've got a well-rounded, experienced team," reflects Razziano. Asked if there is any weakness in the varsity, Razziano replies, "What we could use is a six-foot seven-inch center -- no make that seven foot... a good strong center to help us control the boards. But it looks like the Hellcats are doing just fine the way they are.

Picky, picky

We could say that the mistakes were deliberate...that we just wanted to see if you were all paying attention to our Metrics feature.

Well, about 14 of you called to tell us that we goofed on body temperatures and pints of blood. (No one called, by the way, to say what a swell job we did with centimeters and kilograms.) Anyway, we should point out that normal body temperature, 98.6°F, translates into 37°C--not 42.5°C, as we had said. Then we said that if you had the sniffles your fever might be 43.9°C...but that equals 111°F, which would indicate a condition more serious than a case of the sniffles. Plague, maybe. And the world's record fever, 112°F, comes out to 44°C, not 50°C.

We also said that if you wanted to find out how many pints wree in 499 liters, you should multiply 499 liters by the conversion factor 1.057 to find out the number of quarts, and then divide by 2 for the number of pints. Wrong. Multiply by 2 for the number of pints.

Sorry for the errors, and thank you for setting us straight.

calendar

Aikido Club: every Mon. and Wed., 5 p.m., Pl. 35 cafe; for sport and self-defense; L.I. Aikido Federation; all guests welcome. Bob Bauman, Ext. 2910/Mike Stock, Ext. 7186.

Alcoholics Anonymous: every Mon., 5 p.m., Pl. 15 conference room C; closed meetings; Personnel Relations, Ext. 3521; Calverton: every Mon., 4-5 p.m., Headquarters Bldg.; Great River: every Wed., 4-5 p.m., Pl. 43 conference room 3.

Amateur Radio Club: Wed., March 21, 5:00 p.m., radio shack, Pl. 5; guests welcome. Jim Kearney, Ext. 5380.

Coin Club [Bethpage]: Wed., March 28, 12:05 p.m., Pl. 25 vendor conference rooms; informal lunchtime meeting. Ken Hale, Ext. 3717.

Coin Club [Calverton]: every Fri., 1st noon lunch, Pl. 6 conference room; U.S., foreign coins, medals, collectables; guests welcome. Wally Kondratowicz, Ext. (117) 6680.

Dance Club: every Wed., 5-8 p.m., American Legion Hall, Plainview, March 21: Social at Uncle Sam's/March 25: Hustle; guests welcome. Edith Murway, Ext. 2263/Marv Brown, Ext. 3262.

Duplicate Bridge Club: every Thurs., 6 p.m., American Legion Hall, Plainview; open competition; guests welcome. Walter Lipman, Ext. (115) 6145.

Fencing Club: every Tues., after 4:30 p.m., Pl. 30 cafe; both beginners and experienced fencers; instruction and competition; GAC employees and dependents welcome. Pete Chaldaris, Ext. 4331.

Folk-Dancers Club: every Tues., folk dancing, every Thurs., hustle and ballroom dancing; some instructions available, lunchtime receiving area, Pl. 6; all welcome. Emil Urciuoli, Ext. (117) 6688.

Karate Club: every Tues. and Thurs., 5:30-7 p.m., Pl. 28 auditorium; black belt instructors, physical and mental development; guests welcome. Tony Ortiz, Ext. 4764.

Model Railroad Society: every Wed., 5:30-9:30 p.m., Model RR Bldg., (at Pl. 3 RR crossing); regular meeting; guests welcome. Ray Muntz, Ext. (115) 6044.

Stamp Club: First three Wed. of every month; 5-6 p.m., Pl. 35 cafe; trading sessions and discussions. Steven Hoops, Ext. 3928/8586.

It's almost spring

At Grumman, it really doesn't matter if the ground hog does see his shadow, or if March comes in like a lion. Springtime is marked by the announcement that organizational meetings are ready to get underway for the spring-summer season.

Here's just a quick rundown on what's going to take place during the next few weeks.

GOLF - Mike Cherry of GAA asks that all golf league secretaries return their GAA registration forms as soon as possible so that starting times can be confirmed.

In addition, there's good news for the Grumman duffers who play at the Bethpage State Park. . .and it involves money. Bethpage has lowered its greens fees: from Monday through Friday until 4 p.m., $5; after 4 p.m., $2.75; Saturday and Sunday, $6 until 4 p.m., after 4, $3.00; and for senior citizens, $2.50 during weekdays.

SOFTBALL - All teams who plan on playing in GAA-sanctioned softball league should have a team representative attend one of these pre-season meetings: After-hours league: Wednesday, April 4, at 4:30 in the GAA office; Ext. 2133.

Plant 1/4 lunchtime league: Monday, April 9, 12:15 p.m. Plant 1 receiving area; league commissioner is Roe Strazzeri, Ext. 2394.

Plant 2/3/5 lunchtime league: Tuesday, April 11, 12:15 p.m., call Frank D'Elio for location, Ext. 2515.

Plant 6/7/8 lunchtime league: Wednesday, April 11, 12 noon, conference room in Plant 6; contact Ernie Maggi, Ext. 6772 or Joe Mallin, Ext. 7116.

Plant 43/44 lunchtime league: Tuesday, April 24, 11:30 a.m., conference room; call Charlie Greco, Ext. 7757.

Nite Owls: Tuesday, April 24, 9 p.m., conference room in Plant 2; call Bill Wallace, Ext. 3182, or Walter Lampkin, Ext. 7995.

TENNIS - Though the Grumman Tennis Club held its first meeting of the year this past Wednesday, there is still plenty of time to join the troup. Contact Pat Andrews, club president for further information on Ext. 7345.

MIXED PINEHURST - Though it's not time to sign up yet, you might like to jot down these dates on your calendar for the annual GAA Mixed Pinehurst golf tourneys at Bethpage State Park: June 20, July 18, August 22.

Kings of bocce court. *Winners of the Plant 6 Night Owl bocce league playoffs were: (L to R) Ernie Pennino, Frank Paino, Pat Mullally, and Joe Garrappalo. (Photo by Jim Wagner)*

Grand Slam. *Hugh Montague, Marge Gwozdzinksky-Draluck, Sid Stone, Martin Rossi and Al Levy are members of the Grumman Bridge Club team that won the L.I. Industrial league championship. (Photo by Marie Trimborn)*

North, east, south, west Grumman bridge is best

A Grumman team consisting of captain Sid Stone, Marge Gwozdzinsky-Draluck, Hugh Montague, Al Levy and Martin Rossi won the Long Island Industrial Bridge league championship.

During the season, 22 company-sponsored bridge teams met in round-robin, head-to-head matches to decide upon the top eight teams which would enter the playoffs. The regular season ended in a first place tie between the Grumman team led by Stone and another Grumman team -- captain Al Decker, Dan Panshoukian, Claude Deal, Sam Campbell and Joe Stump.

But it was the Stone contingent that eventually captured the Long Island title. The tourney spurred a lot of interest across Long Island and the league has already expanded to 24 teams for 1979 play.

If you're interested in joining the Grumman Bridge Club, contact club president Sam Campbell, Ext. 4039.

milestones

James E. Daly, Prog. Plng. Cntrl. & Budg. (25)
Margaret A. Meehan, Benefits (28)
Donald A. Burk, Field Admin. & Liaison (28)
John S. Shlonsky, Cent. Set-Up Area (30)
William H. Stanton, Mech. Eng. (30)
James W. Currie, Dist. Serv. (30)
Francis Perugini, General Acct. (30)
Joseph D. Cavalluzzo, Prop. Acct. (30)
Arthur V. Norelius, Suppl. Cntrl. (30)
Salvatore J. Attard, ILS Mech. Eng. Des. (35)
Dino George, Struct. Mech. (35)
Roy P. Relsch, Syst. Scie. (35)
Peter A. Haring, Syst. Eng. Mgt. (35)
James F. Doty, Field Ops. Serv. (35)
Michael J. Galgano, Field Ops. Serv. (35)
Robert G. Brielmann, QC Insp. Mgt. (35)
Donald L. Janson, Career Ed. & Devel. (39)
Elmer O. Baumgart, Instruct./Anal. (39)

GRUMMAN plane news

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